**List of Claims:**

**1. (Currently Amended)** A method of identifying a connection between a first data entity and a second data entity, said method comprising:

initiating one or more calls for establishing a connection between ~~connecting~~ said first data entity with said second data entity;

creating a pseudo-unique identification code that is different for each of said ~~connection~~ calls; ~~and~~

storing said pseudo-unique identification information for each of said calls;

storing diagnostic information relating to each of said calls;

associating said diagnostic information for each of said calls with said pseudo-unique identification code corresponding to each of said calls.

**2. (Original)** The method of claim 1 wherein said pseudo-unique identification information comprises a string that is pseudo-randomly generated.

**3. (Currently Amended)** The method of claim 1 wherein said storing ~~step~~ said pseudo-unique identification information occurs on both said first data entity and said second data entity.

**4. (Currently Amended)** The method of claim 1 ~~further comprising:~~ wherein storing said diagnostic ~~data such that said diagnostic data is associated with said pseudo-unique identification information~~ is only performed for each of said calls that results in a failed connection.

**5. (Original)** The method of claim 1 wherein said first data entity comprises a first modem and said second data entity comprises a second modem.

**6. (Currently Amended)** A method of communicating between a first modem and a second modem comprising:

opening a primary data channel between said first modem and said second modem; and

transmitting diagnostic/maintenance data on a secondary logic channel;

wherein said transmitting comprises placing a value of 0X10 in the UI-TYPE field of an Unnumbered Information frame and placing said diagnostic/maintenance data in the UI_INFO field of the Unnumbered Information frame.

**7. (Original)** The method of claim 6 further comprising:

determining the capabilities of said first modem and said second modem before said transmitting step; and

optimizing said secondary logic channel based on said determining step.

**8. (Cancelled)**

**9. (Original)** The method of claim 8 wherein the UI_INFO field comprises information in one or more of the following categories: FINAL_FRAME; SEQ_NUM; FRAME_TYPE; DIAG_CODE; and DIAG INFO.

**10. (Original)** The method of claim 6 further comprising:

sending a request from said first modem to said second modem via said secondary logic channel; and

transmitting data in response to said request from said second modem to said first modem via said secondary logic channel.

**11. (Currently Amended)** A method of using a secondary communications channel between a first modem and a second modem comprising:

sending diagnostic information on said secondary communications channel;

wherein said diagnostic information is categorized into a category selected from group consisting of Monitor, Control, Configuration, and Unsolicited.

**12. (Original)** The method of claim 11 wherein said diagnostic information includes at least one piece of information concerning one or more devices connected to said secondary communications channel.

**13. (Cancelled)**

**14. (Original)** The method of claim 11 wherein said diagnostic information includes pseudo-unique identification information regarding a particular connection.

**15. (Currently Amended)** A method of using a secondary communications channel ~~between~~ by a first modem ~~and~~ in communication with a second modem comprising:

receiving second modem identification data from said second modem;

indicating that diagnostic information will be in a certain format; and

sending said diagnostic/maintenance information on said secondary communications channel in response to said second modem identification data; ~~wherein,~~

wherein said diagnostic/maintenance information contains information in a plurality of different areas.

**16. (Currently Amended)** The method of claim ~~16~~ 15 wherein said diagnostic/maintenance information further comprises pseudo-unique identification information.

**17. (Original)** The method of claim 16 wherein said diagnostic/maintenance information further comprises information regarding the quality of the connection between said first modem and said second modem.

**18. (Original)** The method of claim 16 said diagnostic information is interlaced with indications of the area of said information.

**19. (Currently Amended)** A method of using call identification information by a first modem, said method comprising:

establishing a first connection ~~between a first modem and~~ with a second modem;

creating a first call identification information unique to said first connection;

storing said first call identification information for said first connection;

storing first diagnostic information relating to said first connection;

associating said first diagnostic information with said first call identification information;

terminating said first connection;

establishing a second connection with said second modem;

creating a second call identification information unique to said second connection;

~~sending~~ receiving a call identification information for a previous connection from ~~said first modem to~~ said second modem; ~~and~~

matching said call identification information with said first call identification information stored by said ~~second~~ first modem;

retrieving said first diagnostic information associated with said first call identification information.

**20. (Currently Amended)** The method of claim 19 wherein said ~~sending step~~ receiving is performed through the use of a secondary data channel.

**Claims 21-23. (Cancelled)**

**24. (Previously Presented)** A data communication method for use by a first modem in communication with a first system and a second system, said method comprising:

starting a physical connection process with a second modem over a communication line;

receiving second modem identification data from said second modem;

completing said physical connection process, after said receiving, to establish a data communication session with said second modem;

establishing an error corrected data channel over said communication line with said second modem;

establishing a non-error corrected data channel over said communication line with said second modem in response to said second modem identification data;

receiving information data from said second modem over said error corrected data channel;

transmitting said information data to said first system;

receiving diagnostics data from said second modem over said non-error corrected data channel; and

transmitting said diagnostics data to said second system.

**25. (Previously Presented)** The method of claim 24 further comprising: transmitting first modem manufacturer identification data to said second modem prior to said completing.

**26. (Previously Presented)** The method of claim 24, wherein said error corrected data channel and said non-error corrected channel are provided based on V.42 Recommendation.

**27. (Previously Presented)** The method of claim 24, wherein said diagnostics data are received via unnumbered information frames.

**28. (Previously Presented)** The method of claim 27, wherein each of said unnumbered information frames includes a diagnostics type field.

**Second Occurrence of Claim 28 (Cancelled)**

**29. (Previously Presented)** The method of claim 27, wherein each of said unnumbered information frames includes a diagnostics code field.

**30. (Previously Presented)** The method of claim 27, wherein each of said unnumbered information frames includes a diagnostics information field.

**31. (Previously Presented)** The method of claim 24, wherein said second modem identification data includes manufacturer identification data.

**32. (Previously Presented)** The method of claim 24, wherein said second modem identification data includes a call identifier created based on a previous call.

**33. (Previously Presented)** A first modem capable of communicating with a first system and a second system, said first modem comprising:

a handshaking module configured to start a physical connection process with a second modem over a communication line;

a receiver configured to receive second modem identification data from said second modem, wherein said handshaking module completes said physical connection process after said receiver receives said second modem identification data to establish a data communication session with said second modem; and

a processor configured to establish an error corrected data channel and a non-error corrected data over said communication line with said second modem in response to said second modem identification data;

wherein said processor receives information data from said second modem over said error corrected data channel and transmits said information data to said first system, and wherein said processor receives diagnostics data from said second modem over said non-error corrected data channel and transmits said diagnostics data to said second system.

**34. (Previously Presented)** The first modem of claim 33 further comprising: a transmitter configured to transmit first modem manufacturer identification data to said second modem prior to completing said physical connection process.

**35. (Previously Presented)** The first modem of claim 33, wherein said error corrected data channel and said non-error corrected channel are provided based on V.42 Recommendation.

**36. (Previously Presented)** The first modem of claim 33, wherein said diagnostics data are received via unnumbered information frames.

**37. (Previously Presented)** The first modem of claim 36, wherein each of said unnumbered information frames includes a diagnostics type field.

**38. (Previously Presented)** The first modem of claim 36, wherein each of said unnumbered information frames includes a frame type field indicative of a response frame or a command frame.

**39. (Previously Presented)** The first modem of claim 36, wherein each of said unnumbered information frames includes a diagnostics code field.

**40. (Previously Presented)** The first modem of claim 36, wherein each of said unnumbered information frames includes a diagnostics information field.

**41. (Previously Presented)** The first modem of claim 33, wherein said second modem identification data includes manufacturer identification data.

**42. (Previously Presented)** The first modem of claim 33, wherein said second modem identification data includes a call identifier created based on a previous call.

**43. (Currently Amended)** A data communication method for use by a first modem in communication with a first system, a second system and a second modem, said method comprising:

receiving second modem identification data from said second modem;

establishing an error corrected data channel with said second modem;

establishing a non-error corrected data channel with said second modem in response to said second modem identification data;

receiving information data from said second modem over said error corrected data channel;

transmitting said information data to said first system;

receiving diagnostics data from said second modem over said non-error corrected data channel; and

transmitting said diagnostics data to said second system.

**44. (Previously Presented)** The method of claim 43, wherein said error corrected data channel and said non-error corrected channel are provided based on V.42 Recommendation.

**45. (Previously Presented)** The method of claim 43, wherein said diagnostics data are received via unnumbered information frames.

**46. (Previously Presented)** The method of claim 45, wherein each of said unnumbered information frames includes a diagnostics type field.

**47. (Previously Presented)** The method of claim 45, wherein each of said unnumbered information frames includes a frame type field indicative of a response frame or a command frame.

**48. (Previously Presented)** The method of claim 45, wherein each of said unnumbered information frames includes a diagnostics code field.

**49. (Previously Presented)** The method of claim 43, wherein each of said unnumbered information frames includes a diagnostics information field.

**50. (New)** The method of claim 27, wherein each of said unnumbered information frames includes a frame type field indicative of a response frame or a command frame.